[redacted], A. [redacted] (Candidate of Technical Sciences)

"Carbon-Dioxide Welding of Oil-Gas Pipes."

paper presented at All-Union Scientific-Technical Conference on Welding in Shielding Gases, Leningrad, Dec 1957.

(Svarochnoye Proizvodstov, 1958, No. 4, pp 46-47 - author Tyul'kov, M. D.)

FAL'KEVICH, A. S.

125-58-6-13/14

The All-Union Scientific-Research Conference on the Production of Welded Pipes and the Assembly of Main Ducts
Mekhanizatsiya Stroitel'stva, 1958, Nr 6

of Electrowelding imeni Ye.O. Paton), on a new type of thin-walled (folded into rolls) tubes; Engineer G.V. Gorbunov (Institute of Electrowelding imeni Ye.O. Paton), on contact welding of main ducts; D.A. Dudko, Candidate of Technical Sciences, (Institute of Electrowelding), on gas-electric welding of immovable main-tube butts; A.L. Zaytsev, Chief Engineer of the SM-5 "Nefteprovodmontazh" on contact welding of main ducts; A.S. Fal'kevich, Candidate of Technical Sciences (VNIIST), on pipe-line welding and quality control; Chief Engineer F.A. Zasko, on welding main ducts under flux; N.G. Kalyuzhnyy (VNIIST), Candidate of Technical Sciences, on new methods of testing main ducts. The following personalities took part in the discussions: Ye. F. Martinson (Glavneftemontazh), V.Ya. Mayevskiy (Ukrneftesbyt), B.F. Kondrat'yev (Khartsyzskiy trubnyy zavod - Khartsyzsk Pipe-Plant), M.I. Dzyubenko, P.Ya. Zhbanov (Giprostal'), N.A. Shevchenko (Gipromez), V.S. Turkin (VNIIST), A.N. Yuryshev (Upravleniya stroitel'stva gazoprovodov - Administration of Gas-Pipe Construction); D.P. Lebed' (Plant imeni Babushkin); N.S. Barkov (SMU-3 of the Welding-Assembly Trust); Samoylovich (SMU-6 "Nef-

Card 3/5

FAL'KEVICH, A.S., kandidat tekhnicheskikh nauk.

Automatization and mechanization of welding in pipeline construction.
Stroi.pred.neft.prom. 2 no.5:1-5 My '57. (MLRA 10:7)
(Electric welding) (Pipelines)

Ann[illegible], I.I., inzhener; FAL'KEVICH, [illegible], kandidat tekhnicheskikh nauk.

Technical and economic effectiveness of various methods for welding petroleum and gas pipelines. Mekh.i avtom.neft.prom. 2 no.6:17-21 Je '57. (MLRA 10:7)

(Pipelines--Welding)

FAC REVIEW/AE

135-7-8/16

SUBJECT: USSR/Welding

AUTHORS: Fal'kevich, A.S., Candidate of Technical Sciences; Usenko, Yu.V. Engineer, and Lubov, V.M., Engineer.

TITLE: Magnetographic Inspection of Welded Joints. (Magnitograficheskiy kontrol' svarnykh soyedineniy).

PERIODICAL: "Svarochnoye Proizvodstvo", 1957, # 7, pp 20-22 (USSR).

ABSTRACT: In 1955-56 the welding laboratory of VNIIStroyneft' developed a method and equipment for magnetographic inspection of welded joints on pipelines and vessels, which is described in the following.

Basically, the magnetographic defectoscope consists of two parts: a tape moving mechanism with a reproducing head and an erasing head, an amplifier, a cathode ray tube, a high-frequency generator for feeding the erasing head, and a defect indicator in the form of a neon lamp with a definite ignition barrier.

The essence of the method is the registeration of welding defects on a 35 mm wide ferromagnetic tape placed directly on the welding seam. Two different magnetizing systems are recommended: 1)

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135-7-8/16

TITLE: Magnetographic Inspection of Welded Joints. (Magnitograficheskiy kontrol' svarnykh soyedineniy).

magnetising across the joint by an electric "AM-4" disc-magnet and 2) magnetizing of pipe-butts by instantaneous discharge of condensers into a multi-coil solenoid laid around the pipe on the ferromagnetic tape. The first device weighs 9 kg, is small, and can be used in any position on welding seams, on sheet constructions as well as on pipelines. Power may be taken from a 24 V battery, from a rectifier, or from a d.c. welding generator The second device - with flexible solenoid - works with a 12V battery and a discharge aggregate. The condensers and the transformer of the discharge aggregate are mounted in a case weighing 5 kg.
In metal up to 12 mm thickness, the ferromagnetic tape clearly shows all longitudinal macroscopic cracks of any size, the majority of the cross cracks, voids left in the root of the seams if they exceed 5-7 % depth, slag inclusions and accumulation of gas pores. Cross cracks are revealed relatively weakly (which coinside with the direction of magnetic flux), along with single pores, and round slag inclusions. After inspection of a joint, the recording is erased from the tape by the erasing head.

Card 2/4 A reproducing device with a turning magnetic head serves for

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TITLE: Magnetographic Inspection of Welded Joints. (Magnitograficheskiy kontrol'svarnykh soyedineniy).

qualitative analysis of registered defects. It produces stationary images of impulses of the screen of the cathode ray tube which are characteristic for different defects. For instance, longitudinal cracks produce pointed impulses with a wide amplitude and short duration, slag inclusions give impulses of small amplitude and different shape, etc. A skilled magnetographer can define the nature and the size of defects with sufficient accuracy. The results of X-ray and magnetographic inspection conform nearly completely.

In preliminary experiments the method has been tried on metals with thicknesses of 25 mm and on lap joints. Defects were also detected in lap joints of metal 5 mm thick and in 40 mm long overlapping joints. A disc magnet produced the required induction, but it weighs 60 kg and the magnetizing current is 150 amps.

During 1955-56 the magnetographic method was used experimentally on the construction of the gas pipeline Stavropol' - Moskva, and on other gas pipelines where more than 4000 butt joints were inspected. A certain number of joints were inspected by gamma-rays for comparison. The methods appeared to be equally

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135-7-8/16

TITLE: Magnetographic Inspection of Welded Joints. (Magnitograficheskiy kontrol'svarnykh soyedineniy).

sensitive. Generally, the equipment worked satisfactorily under field conditions. On the average 8 minutes were needed for inspecting (magnetizing, reproduction, and evaluation) one joint of the gas-pipeline Stavropol'-Moskva. The method costs one-tenth that of the radiographic inspection.

The drawbacks of the method are: weak detection of cross cracks, single pores, and round slag inclusions. The evaluation of test results depends on the skill of the operator the test results are not visible during the process of inspection.

The magnetizing and the reproducing equipment must be improved and simplified in the future.
The article contains 3 photographs, 2 sketches, 1 series of magnetograph recordings and 1 table.

ASSOCIATION: "VNIIStroyneft".

PRESENTED BY:

SUBMITTED:

AVAILABLE: At the Library of Congress.

Card 4/4

Fal'kevich, A. S.

AUTHOR: Fal'kevich, A. S., Candidate of Technical Sciences (Moscow). 95-11-2/14

TITLE: Ways for Further Improvement of Methods for Quality Control of Butt Welds of the Main and Factory Oil and Gas Pipelines (Puti dal'neyshego sovershenstvovaniya metodov kontrolya kachestva svarnykh soyedineniy magistral'nykh i zavodskikh nefte - i gazoprovodov).

PERIODICAL: Stroitel'stvo Predpriyatiy Neftyanoy Promyshlennosti, 1957, Nr 11, pp. 419 (USSR).

ABSTRACT: The statements made in this articles permit the following conclusions to be drawn:
1.) Present methods of random mechanical tests of pipelines do not make it possible, to determine the actual quality of welding seams and can be used occasionally only for the control of connections established by fusion welding and which cannot be controlled by seams of any other method. Besides, it is advisable to use mechanical methods of controlling the welding material.
2.) The principal method of testing connections and seams of main gas- and mineral oil pipelines must be of the type of destruction-

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free physical methods of control which make it possible to detect the closed parts of the welding seam as well as hidden defects in the metal. The percentage of welding seams to be controlled by physical methods must also be considerably increased.

3.) Among the destruction-free methods of control, the magnetic- and the supersonic methods must be employed to an increasing degree as they are not dangerous to the operating personnel. Hard work is still necessary for the further development and control of the production of apparatus to be used for these methods.

4.) Radioscopy by means of gamma rays of welding seams of pipelines must be used more frequently. Main attention must be directed to the development and production of such devices (trolleys with travel gearing and containers with remote control), which warrant safety for the operating personnel and clearness of the pictures.

5.) It is necessary, in the near future, that present technical conditions and rules for the control and taking over of the quality of welded seams of main gas- and mineral oil pipelines be radically changed. There are 4 figures, 1 table, and 6 Soviet references.

AVAILABLE. Library of Congress.

Card 2/2

DUDA, R.I.; TARAN, V.D.; FAL'KEVICH, A.S.; LIVSHITS, L.S.

High-level capacity of steel tanks in the winter. Neft.khoz. 35 no.2:51-56 F '57. (MIRA 10:3)
(Petroleum--Storage)

FAL'KEVICH, Aleksandr Semenovich ,; SHAKHMAYEVA, Ye. A., ved. red.: TROFIMOV, A.V., tekhn. red.

[Welding factory and main pipelines]Svarka magistral'nykh i zavodskikh truboprovodov. Moskva, Gos. nauchno-tekhn. izd-vo neft. i gorno-toplivnoi lit-ry, 1958. 346 p. (MIRA 11:10)
(Pipelines--Welding)

SIDORENKO, M.V., glavnyy red.; ZAREMBO, K.S., red.; KREMS, Ye.A., red.; RAABEN, V.N., red.; RYABTSEV, N.I., red.; BRENTS, A.D., red.; ITSIKSON, B.S., red.; KOMISSAROV, P.G., red.; POPOV, V.I., red.; TESNER, P.A., red.; FAL'KEVICH, A.S., red.; STEPANCHENKO, N.I., vedushchiy red.; NOVIKOVA, M.M., vedushchiy red.; MUKHINA, E.A., tekhn.red.

[Ways of developing the gas industry of the U.S.S.R.; transactions of the All-Union Conference on Further Development of the Soviet Gas Industry] Materialy Vsesoyuznogo soveshchaniya po dal'neyshemu razvitiyu gazovoi promyshlennosti SSSR: Puti razvitiia gazovoi promyshlennosti SSSR. Moskva, Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry, 1958. 432 p. (MIRA 12:4)

1. Vsesoyuznoye soveshchaniye po dal'neyshemu razvitiyu gazovoy promyshlennosti SSSR, Moscow, 1957.
(Gas industry)

SOV/137-59-3-5820

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 3, p 125 (USSR)

AUTHOR: Fal'kevich, A.S. Cand. Tech. Sci.

TITLE: The Strength of Welded Cylindrical Reservoirs (Prochnost' svarnykh tsilindricheskikh rezervuarov)

PERIODICAL: V sb.: Prochnost' svarn. konstruktsiy. Moscow-Leningrad, Mashgiz, 1958, pp 129-142

ABSTRACT: The problem of the strength of welded cylindrical reservoirs (WCR) employed for storage of petroleum products is examined in the light of the operation of such vessels, their design, construction materials, and the quality of the welding performed in their manufacture and maintenance. The WCR's belong to the category of weldments operating under particularly severe conditions, i.e., the presence of rigid welded connections accompanied by residual stresses, the temperature of surrounding air attaining values of -50°C, etc.). In actual practice of construction and operation of the WCR's cracking was observed to occur predominantly during the winter. Cracks appear most frequently in the parent metal in regions where numerous welds converge, as well as in butt welds that exhibit a considerable

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This book contains principal rpts of a conf. held in Leningrad, sponsored by Leningrad Br., A-U Sci, Engineering and Tech. Soc (VNITO) of Welders.

The Strength of Welded Cylindrical Reservoirs

degree of incomplete penetration. Cracking in lap welds occurred extremely seldom. Practically all cracks were observed in butt welds which were welded on one side only and were reinforced with cover plates. Welds performed with chalk-coated electrodes account for 67% of all cracks. Since cracks may appear in full as well as in empty WCR's, their occurrence is not always attributable to stresses due to the pouring of petroleum products into the WCR's. All WCR's which suffered complete failure were made of rimmed open-hearth steel. The failure was brittle in nature without any evidence of plastic deformation. The following measures designed to reduce the hazards connected with the operation of WCR's are recommended: 1) Discontinuation of manufacture of WCR's with lower supporting angle brackets, segmentary reinforcing rings, and cover plates for the vertical butt joints of the shell; 2) employment of open-hearth or low-alloy Mn steels which exhibit lower susceptibility to cold shortness; 3) utilization of AN-348A or OSTs-45 fluxes in conjunction with SV-08 welding wire in the process of automatic welding and employment of electrodes of E42A type in the course of manual welding; 4) all butt joints should be welded on both sides; 5) all important welds are to be performed by operators certified by the Kotlonadzor (Boiler Inspection Department); 6) high-quality materials should be employed and the operational sequence established for welding of individual seams should be rigidly observed.

M. K.

Card 2/2

SOV-135-58-3-6/19

AUTHOR: Fal'kevich, A.S., Candidate of Technical Sciences

TITLE: Mechanization and Automation of Welding in Construction of Gas-Oil Pipe Mains (Mekhanizatsiya i avtomatizatsiya svarochnykh rabot pri stroitel'stve magistral'nykh gazo-neftepro-vodov)

PERIODICAL: Svarochnoye proizvodstvo, 1958, Nr 3, pp 19-23 (USSR)

ABSTRACT: The article contains general information on the development of the technique of welding gas-oil pipes in the USSR and abroad. Some installations used in the USSR are mentioned and illustrated, such as a mobile installation for contact butt welding (Figure 1), a pipe welding base with an automotive rotating device (Figure 3); a centering and rotating device for the "R-751" installation (Figure 4) and automatic machines for overhead welding of the first seam layer, designed by workers Yu.I. Marchenko, I.U. Mikhlen and A.Z. Karbachinskiy from VNIIStroyneft'. Information includes a suggestion, made by Engineer G.L. Kshondzer from Glavgaz, to reduce the beveling angle in arc butt welding from 30-35° to 15-17°, in order to raise efficiency and to reduce material expenses in welding.

SOV-135-58-3-6/19

Mechanization and Automation of Welding in Construction of Gas-Oil Pipe Mains

There are 4 photos, 2 tables and 2 sketches.

ASSOCIATION: VNIIStroyneft'

1. Pipes--Welding 2. Welding--Equipment

Card 2/2

FAL'KEVICH, A.S., kand.tekhn.nauk; MARCHENKO, Yu.I., inzh.

Automatic butt welding of nonrotatable pipes in field work conditions. Stroi. truboprov. 3 no.12:7-12 D '58. (MIRA 12:1)
(Pipelines--Welding)

SOV-135-58-11-5/21

AUTHORS: Taran, V.D., Doctor of Technical Sciences, Professor; Bobritskiy, N.V., Engineer; Fal'kevich, A.S., Candidate of Technical Sciences, and Neyfel'd, I.Ye., Engineer

TITLE: An Investigation of Pipe Pressure-Welding Process (Issledovaniye protsessa pressovoy svarki trub)

PERIODICAL: Svarochnoye proizvodstvo, 1958, Nr 11, pp 12-14 (USSR)

ABSTRACT: There is no exact information available on the processes of seam formation in the pressure welding of pipe butts. VNIIST carried out experiments together with the Chair of Metal Study of the Moscow Oil Institute imeni I.M. Gubkin, relating to the study of the pressure welding process under a plastic condition with the use of radioactive isotopes. "Marked atoms" were used to determine the correctness of one of the two existing hypotheses on the formation of weld joints, and to solve the problem of iron-atom diffusion and changes of properties in weld joints by subsequent heat treatment. Microautoradiography was used to investigate the diffusion processes in metal. The following conclusions are made:
1) The penetration of grains through the border dividing the

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parts being welded does not take place. 2) Weld joints have a non-diffusion character and common grains on the border are formed by the drawing together of surface grain atoms. 3) Subsequent heat treatment of pressure-welded low-carbon steel proved inefficient. Further investigation on the use of other radioactive isotopes in the pressure-welding process is recommended.
There are 2 tables, 1 graph, 2 diagrams, 3 sets of microphotos and 7 references, 2 of which are English and 5 Soviet.

ASSOCIATIONS: Moskovskiy neftyanoy institut (Moscow Petroleum Institute)
VNIIST Glavgaza SSSR (VNIIST of Glavgaz USSR)

1. Pipes—Welding 2. Metals—Diffusion 3. Radioisotopes—Applications 4. Welds—Autoradiography

SOV-135-58-11-8/21

AUTHORS: Fal'kevich, A.S. and Mazel', A.G., Candidates of Technical Sciences; Marchenko, Yu.I. and Mikhlin, I.I., Engineers

TITLE: Automatic Overhead Pipe Welding Under Flux (Avtomaticheskaya svarka pod flyusom trub v potolochnom polozhenii)

PERIODICAL: Svarochnoye proizvodstvo, 1958, Nr 11, pp 19-23 (USSR)

ABSTRACT: Information is presented on experimental data obtained by the welding laboratory at VNIIST in developing a new method of overhead welding (suggested by welding operator A.A. Morozov). It can be applied for the overhead welding of the first layer of carbon and low alloy steel pipes of 114 - 720 mm in diameter without support rings and with flux fed into the arc space by means of a worm. The main technological factors of the new method are the displacement of the electrode from the lowest point of the pipe and the force of pressure upon the flux pad. The method ensures a stable burning of the arc, and a satisfactory accumulation of the weld metal. Optimum welding parameters permit the obtaining of a 4 - 5 mm thick first layer with high mechanical properties. Special devices developed at VNIIST with the participation of engineers A.Z. Karbachinskiy and N.I. Shlyuyev are used in the new method,

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Automatic Overhead Pipe Welding Under Flux SOV-135-58-11-8/21

which is recommended for industrial purposes.
There are 6 tables, 1 diagram, 1 oscillogram, and 5 photos.

ASSOCIATION: VNIIST (VNII TVERDOVA spelling)

1. Pipes—Arc welding 2. Arc welding—Equipment
3. Electric arcs—Performance

Card 2/2

FAL'KEVICH, A.S., kand. tekhn. nauk; MARCHENKO, Yu.I., inzh.

Developing technology and equipment for welding nonrotatable large diameter pipe butts. Svar. proizv. no.2:8-12 F '59. (MIRA 12:1)

(Pipe, Steel--Welding)
(Electric welding--Equipment and supplies)

NEYFEL'D, I.Ye., inzh.; FAL'KEVICH, A.S., kand. tekhn. nauk

Improving quality control methods in welding main truck gas and petroleum pipelines. Svar. proizv. no.2:17-21 F '59. (MIRA 12:1)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov.
(Electric welding--Quality control)
(Pipelines--Welding)

FAL'KEVICH, A.S., kand.tekhn.nauk

Testing welded joints of main gas pipelines. Bezop.truda v prom. 3 no.9:14-16 S '59. (MIRA 13:2)
(Gas, Natural--Pipelines)

SOV/135-59-10-18/23

18(5), 25(1)

AUTHOR: Fal'kevich, A.S., Candidate of Technical Sciences

TITLE: Bend Testing of Welded Joints

PERIODICAL: Svarochnoye proizvodstvo, 1959, Nr 10, pp 41-42 (USSR)

ABSTRACT: The bending test according to GOST 6996-54 is to show the plasticity of a welded joint. For this purpose a certain angle is defined, at which the first visible fracture in the weld appears. But most defects of a weld (poor penetration, slag inclusions), which are located in the root of the weld, do not appear in the bending test, according to GOST 6996-54. Therefore, the following proposals are worked out by VNIIST: 1) Bending test according to fig.1 (the so-called bend "on the edge"). The main advantage of this arrangement lies in the equal deformation of the whole section of the weld in the bending zone; 2) bending test by placing the sample with the root of the weld outward, fig.2. With this test the main deformations are located in the part of the weld which is located in the depth of the carving. This test can especially be used for one side welds. Tables 1 and 2 give detailed

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Bend Testing of Welded Joints

data on several tests which have been conducted. There are 2 photographs, 2 diagrams and 2 tables.

ASSOCIATION: VNIIST

FAL'KEVICH, A.S., kand.tekhn.nauk

Automatic butt welding of pipeline joints. Mov.tekh.mont.i spets. rab.v stroi. 21 no.5:11-14 My '59. (MIRA 12:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po stroitel'stvu magistral'nykh truboprovodov.
(Pipelines--Welding)

SOV/32-25-7-26/50

28(5)
AUTHORS: Fal'kevich, A. S., Lubov, V. M.

TITLE: Magnetographic Method for the Quality Control of Weld Seams (Magnitograficheskiy metod kontrolya kachestva svarnykh shvov)

PERIODICAL: Zavodskaya laboratoriya, 1959, Vol 25, Nr 7, pp 853-856 (USSR)

ABSTRACT: Yu. V. Usenko and M. Kh. Khusanov took part in designing the apparatus and elaborating the testing technique of the method mentioned in the title. In the course of the last years a magnetographic control method (MM) (Refs 3,4) has been worked out at the welding laboratory (of the Institute mentioned in the Association) which can be used for the welding of natural gas and petroleum pipe lines at 60-70 atm pressure (Refs 1,2). The (MM) is based on fixing the dispersion fields which apppear on the defective spots of the surface of magnetized objects. This magnetic leakage is transferred to a magnetic band (M) covering the weld seam and from there it is recorded on to a screen by an electron ray tube in the form of EMF impulses. The type and extent of the material defects can be seen from the amplitude and form of the impulses. The control process of the (MM) consists of magnetizing the weld seam to be investigated,

Card 1/2

Magnetographic Method for the Quality Control of Weld Seams SOV/32-25-7-26/50

transferring the magnetic dispersion from (M), and determining the extent of the defects. A two-layer (M), type I (width:35 mm), is used which serves for sound recording in cinematography. Two types of magnetization can be applied - a transversal or a vertical one. In the first case a disk magnet DM-58 (Fig 3) is used, whereas in the second case a solenoid is used for magnetizing. At present shifts are made along the (M) or transverse to the weld seam, the apparatus VUMD-3 being used in the first case and the apparatus VUMD-7 in the second case. In addition to these two apparatus a model was designed with a rotating head-piece and a static transference of the ray impulses on to the screen of the electron tube. Practice showed that pipelines with pipe walls of 5 to 12 mm can be controlled by the (MM) provided that the surface of the weld seams is not too rough. In addition to the above article, the editors mention the further elaboration of the (MM). There are 5 figures and 5 references, 4 of which are Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut po stroitel'stvu magistral'nykh truboprovodov (All-Union Scientific Research Institute for the Construction of Main Pipelines)

Card 2/2

FAL'KEVICH A. S.

PHASE I BOOK EXPLOITATION SOV/5596

Neyfel'd, I. Ye., A. S. Fal'kevich, and L. S. Livshits

Kontrol' kachestva svarki na stroitel'stve (Quality Control in Field Welding) Moscow, Gostroyizdat, 1960. 163 p. 8,000 copies printed.

Scientific Ed.: V. L. Tsegel'skiy, Engineer; Ed. of Publishing House: L. S. Lytkina; Tech. Ed.: T. M. Gol'berg.

PURPOSE : This book is intended for engineers, technicians, and skilled weldors engaged in field welding and its quality control.

COVERAGE: Modern welding methods, types of welded joints used in construction and erection, and specifications for weldments are described. Particular attention is given to the following methods of weld inspection: X-ray, gamma-ray, magnetic, ultrasonic, mechanical, metallographic, and corrosion. Data concerning methods of inspecting welds for tightness are also

Card 1/7

presented. The author thanks L. P. Bakhrakh, S. I. Panich, G. N. Shubert, and V. M. Lubov for their assistance in the work performed at VNIIST (Vsesoyuznyy nauchno-issledovatel'skiy institut po stroitel'stvu magistral'nykh truboprovodov -- All-Union Scientific Research Institute for the Construction of Main Pipelines). Chapters I, II, III, VI, VII, and X were written by A. S. Fal'kevich, Candidate of Technical Sciences; Chapters IV, V, and IX, by I. Ye. Neyfel'd, Engineer; and Chapter VIII, by L. S. Livshits, Candidate of Technical Sciences. There are 33 references, all Soviet.

TABLE OF CONTENTS:

FAL'KEVICH, A.S.

NIKOLAYEV, S.I., red.; SALUKVADZE, V.S., red.; ANDRIANOV, K.I., red.; VASIL'YEV, A.Ye., red.; ZHIKHAREVA, G.P., red.; KRYLOV, P.I., red.; KSHONDZER, G.L., red.; KHRAMIKHIN, F.G., red. [deceased]; CHEREMISINOV, M.M., red. Prinimali uchastiye: ANUCHKIN, M.P., red.; GRIGOR'YEVA, M.B., red.; ZHUKOV, V.I., red.; KALYUZHNYY, N.G., red.; KAMERSHTEYN, A.G., red.; KOZLOVSKAYA, A.A., red.; LAVROVA, N.P., red.; NUSOV, G.I., red.; FAL'-KEVICH, A.S., red.; YERSHOV, P.R., vedushchiy red.; FEDOTOVA, I.G., tekhn.red.

[Safety regulations for constructing steel pipelines] Pravila tekhniki bezopasnosti pri stroitel'stve magistral'nykh stal'nykh truboprovodov. Moskva, Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry, 1960. 235 p. (MIRA 13:9)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye gazovoy promyshlennosti. 2. Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov (for Anuchkin, Grigor'yeva, Zhukov, Kalyushnyy, Kamershteyn, Kozlovskaya, Lavrova, Nusov, Fal'kevich).
(Pipelines) (Industrial safety)

KUREK, N.M., red.; BOBORYKIN, Ye.P., red.; VINOGRADOV, K.V., red.; GORCHAKOV, A.V., red.; ZIL'BERBERG, A.L., red.; KRYLOV, V.A., red.; NAUMOV, V.G., red.; ORLOV, V.M., red.; KHOKHLOV, B.A., red.; KHOTKEVICH, S.G., red.; FAL'KEVICH, A.S., red.; RAGAZINA, M.F., red. izd-va; ZLATOTSVETOVA, I.I., red. izd-va; ALEKSEYEV, S.A., tekhn. red.

[Manufacture and assembly of pipelines] Izgotovlenie i montazh truboprovodov; sbornik statei. Moskva, TSentr. biuro tekhn. informatsii, 1960. 318 p. (MIRA 15:1)

1. Russia (1917- R.S.F.S.R.) Tekhnicheskoye upravleniye. (Pipe)

ZIL'BERBERG, A.L., inzh.; NAUMOV, V.G., inzh.; FREYDLIN, M.L., inzh.; FAL'KEVICH, A.S., kand.tekhn.nauk, nauchnyy red.; TYULENEVA, L.M., red.izd-va; BOROVNEV, N.K., tekhn.red.

[Preparing and assembling industrial pipelines] Izgotovlenie i montazh tekhnologicheskikh truboprovodov. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1960. 386 p. (MIRA 14:4)

1. Russia (1917- R.S.F.S.R.) Glavnoye upravleniye po montazhu tekhnologicheskogo oborudovaniya i proizvodstvu montazhnykh rabot. (Pipe)

84607

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S/135/60/000/004/004/008
A115/A029

AUTHORS: Fal'kevich, A.S., Candidate of Technical Sciences, Marchenko, Yu.I., Engineer, Sevbo, P.I., Candidate of Technical Sciences, Livinskiy, V.P., Engineer, Dubovetskiy, V.Ya., Engineer

TITLE: CO_2 Shielded Arc Welding of Gas Pipelines

PERIODICAL: Svarochnoye proizvodstvo, 1960, No. 4, pp. 22 - 25

TEXT: This article was worked out in collaboration with the Engineers of the Svarochno-montazhnyy trest (Welding Engineering Trust) F.A. Zasko, G.Ye. Kogan, V.A. Umets, G.K. Vykhristyuk, members of the VNIIST (All-Union Scientific Research Welding Institute) A.R. Yanbukhtin, V.M. Yampol'skiy, V.I. Fedorov and A.Z. Karbochinskiy; Chief Engineer of the Kiyevskiy remontno-mekhanicheskiy zavod (Kiev Mechanical Repair Plant) M.R. Unigovskiy and members of the Institut elektrosvarki im. Ye.O. Patona (Institute of Electric Welding imeni Ye.O. Paton) D.A. Dudko and F.M. Vinogradskiy. After a brief review of welding methods used in construction of pipe lines in the USSR, some new methods developed since 1959 are described. In July 1959 tests with CO_2-shielded welding without grommets were performed on the Shebelinka-Belgorod gas pipe line by the Welding Engineering Plant (SU-4), All-

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84607

CO_2 Shielded Arc Welding of Gas Pipelines

S/135/60/000/004/004/008
A115/A029

-Union Scientific Research Welding Institute, Institute of Electric Welding imeni Ye.O. Paton and Kiev Mechanical Repair Plant of the Glavgaz of the USSR (KRMZ) for the tests performed on 12 m long, 720 mm in diameter and 8 - 10 mm thick 19G steel pipes made in Chelyabinsk the following equipment was used: centering collars produced by the KRMZ (Fig. 1), centering collars produced by the Institute of Electric Welding (Fig. 2) weighing 25 kg each, ПЭГП-53 (PEGP-53) welding set (Fig. 3) equipped with a ЯАЗ-240Г (YaAZ-240G) diesel engine, 3 generators and 6 CO_2 containers; A-607 semiautomatic welding apparatus (Figs. 4 and 5) produced by the Institute of Electric Welding imeni Ye.O. Paton, АС -59 (AS-59) twin welding apparatus designed and produced by the All-Union Scientific Research Welding Institute and a control panel (Fig. 9). The use of the AS-59 welding apparatus is described and shown in Figures 6 - 8. By this method 1,000 m pipe line was completed in 1 shift by 1 centering team, 4 welding sets and 8 welders. There are 9 figures and 3 Soviet references.

ASSOCIATION: VNIIST (All-Union Scientific Research Welding Institute) and Institut elektrosvarki im. Ye.O. Patona (Institute of Electric Welding imeni Ye.O. Paton).

Card 2/2

82652
S/135/60/000/008/006/010
A006/A002

18.7200

AUTHORS: Fal'kevich, A.S., Candidate of Technical Sciences, Fedorov, V.I., Engineer

TITLE: Automatic Welding of Rotary Pipe Butts in Carbon Dioxide Without Permanent Backing Rings

PERIODICAL: Svarochnoye proizvodstvo, 1960, No. 8, pp. 22-24

TEXT: On the basis of studies carried out at VNIIST and at the Institut elektrosvarki imeni Ye.O. Patona AN USSR (Institute of Electric Welding imeni Ye. O. Paton, AS UkrSSR) semi-automatic and automatic welding in carbon dioxide of large diameter rotary and stationary pipe butts was developed. Although semi-automatic welding presented various advantages, this process required highly skilled welding operators and the welding speed was not over 8-12 m/hr. The welding laboratory of VNIIST developed a technology for the automatic welding in carbon dioxide of rotary butts without backing rings. The operation was performed using a special welding head analogous to the design of a VNIIST automatic machine for welding stationary butts. The characteristic feature of this automatic machine is the transverse oscillation of the electrode wire and of the gas jet during the welding process. The oscillations of 60-80 cycles per minute are performed by

S/135/60/000/008/006/010
A006/A002

Automatic Welding of Rotary Pipe Butts in Carbon Dioxide Without Permanent Backing Rings

using a special cam (Figure 1). During welding the oscillation amplitude may vary from 0 to 20 mm. Figure 2 shows an automatic machine adapted for welding rotary butts, of 720-820 mm and 8-9 mm wall thickness. "Св-08Г2А" (Sv-08G2SA) wire of 1-1.2 mm in diameter was employed. First the optimum direction of the pipe rotation and the location of the welding head were studied. A first series of tests proved that to ensure full penetration of the weld root without a backing ring, the welding process should be performed with a "back angle" of the electrode wire. To determine the optimum position of the welding head, tests were made with an inclination of the head from the vertical at angles of 0, 20, 30, 45, 80 and 135°. The welding conditions are given in a table. At a 30-40° inclination of the welding head from the vertical satisfactory results were obtained for the penetration of the root, the filling of the seam and the holding of the metal in the pool. The investigation performed proved the efficiency of using automatic welding for pipe butts without backing rings with oscillating electrodes in carbon dioxide. Although some differences in the pipe butt dimensions were found, the developed technology ensures the full penetration of the root and high mechanical properties of the weld metal. The described technology is recommended for industrial use. There are 2 tables and 3 figures.

ASSOCIATION: VNIIST

Card 2/2

PAL'KEVICH, A.S., kand.tekhn.nauk

Scientific technology conference on the welding of pipelines.
Svar.proizv. no.8:41-42 Ag '60. (MIRA 13:7)
(Pipelines--Welding) (Welding--Congresses)

84635

S/135/60/000/011/010/016
A006/A001

18.8400 (2308, 1506 only)

AUTHORS: Fal'kevich, A.S., Candidate of Technical Sciences, Lubov, V.M., Khusanov, M.Kh., Engineers

TITLE: A New Apparatus and Method For the Magnetographic Inspection of Welds

PERIODICAL: Svarochnoye proizvodstvo, 1960, No. 11, pp. 33-34

TEXT: The magnetographic method of inspecting weld joints developed by VNIIST (Authors' Certificate No. 102537 issued in the names of S.M. Makhover and Yu.V. Usenko) came into use for constructing pipelines due to the series of advantages. Its further expansion, however, was impeded by some deficiencies of the flaw detector and insufficient clearness of the inspection method. For the purpose of improving this, the welding laboratory of VNIIST designed a high-sensitive flaw detector with fixed representation of pulses from the defects on the screen of an electron-ray tube, and developed a new method for the visual observation of magnetic fields. The flaw detector design was based on the principle of transverse reproduction of dispersion fields from the defects with the aid of a rotating drum with magnetic heads. The drum rotating at a speed of

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84635

S/135/60/000/011/010/016
A006/A001

A New Apparatus and Method For the Magnetographic Inspection of Welds

1,400 rpm is mounted on a motor shaft (Figure 4). The motor is placed at a certain angle in a carriage where the magnetic tape is fixed. It is manually operated in the longitudinal direction along the drum. The main advantages of the design are the possibility of increasing considerably the reproduction speed and consequently the sensitivity of the apparatus. The increased speed makes it possible to obtain a fixed image of the pulse on the screen, since the 46-cycle-oscillations of the scanning are not noticeable to the eye. Simultaneously a new method of magnetographic inspection was developed and tested on an experimental model, producing the visual image of a magnetic field from the defects. The method is efficient, cheap, safe and provides for the required clearness. The results obtained are being used to develop a device for the visual presentation of defects.

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84635

S/135/60/000/011/010/016
A006/A001

A New Apparatus and Method For the Magnetographic Inspection of Welds

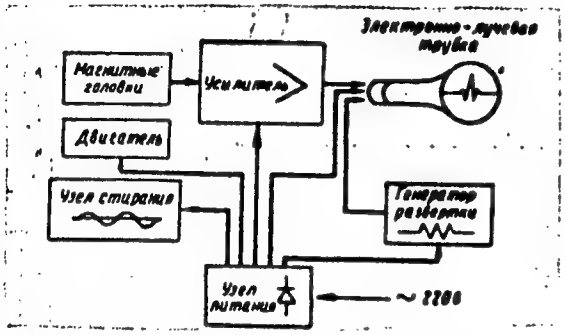

Figure 3. Block diagram of the МД -9 (MD-9) flaw detector

Magnetic heads
Motor
Erase unit

Amplifier

Feed unit

Electron ray tube

Scanning generator
220 v

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S/135/60/000/011/010/016
A006/A001

A New Apparatus and Method For the Magnetographic Inspection of Welds

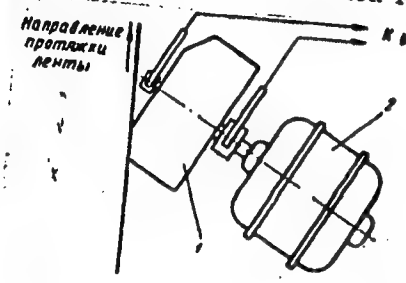

Figure 4. Kinematic system of the MD-9 flaw detector.

There are 1 table and 5 figures, and 3 Soviet references.

ASSOCIATION: VNIIST

Card 4/4

PROKOF'YEV, V.I., kand.tekhn.nauk; FAL'KEVICH, A.S., kand.tekhn.nauk

New technical requirements for pipeline construction. Stroi. trubopov. 5 no.1:3-6 Ja '60. (MIRA 13:8)
(Pipelines)

FAL'KEVICH, A.S., kand.tekhn.nauk

Problems in the further improvement of methods for welding main pipelines. Stroi. truboprov. 5 no.3:1-4 Mr '60. (MIRA 13:9)
(Pipelines - Welding)

FAL'KEVICH, A.S.; KHRENOV, K.K.

New movable diesel generators for welding pipelines. Avtom. svar. 13 no.9:58-61 S '60. (MIRA 13:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov.
(Electric welding--Equipment and supplies)
(Pipelines--Welding)

FAL'KEVICH, Aleksandr Semenovich; LEVINA, Ye.S., red.; TROFIMOV, A.V., tekhn. red.

[New developments in gas pipeline welding] Novoe v svarke gazoprovodov. Moskva, Gos. nauchno-tekhn. izd-vo neft. i gorno-toplivnoi lit-ry, 1961. 34 p. (MIRA 14:5)
(Gas, Natural--Pipelines) (Pipelines--Welding)

FAL'KEVICH, A.S., kand. tekhn. nauk; ALEKSEYEVSKAYA, Ye.A., red.; VIKTOROVA, Z.N., tekhn. red.

[Welding carbon dioxide] Svarka v uglekislom gaze; obzor. Moskva, TSINTIMASH, 1961. 70 p. (MIRA 16:5)
(Welding) (Protective atmosphere)

S/135/61/000/001/012/018
A006/A001

AUTHORS: Fal'kevich, A.S., Candidate of Technical Sciences, Sheynkin, M.Z., Engineer

TITLE: On Welding in Water Vapor Medium

PERIODICAL: Svarochnoye proizvodstvo, 1961, No. 1, pp. 43 - 44

TEXT: The use of welding in water vapor is particularly interesting in the construction of main pipelines on the site, due to the cheapness and simplicity of producing the shielding atmosphere. The VNIIST laboratory studied the possibility of using water vapor as a shielding medium when welding steel pipes. A machine was used consisting of an automotive trolley with a AC -59 (AS-59) head designed by VNIIST, assuring oscillations of the electrode across the butt at a required frequency (f) and amplitude, A, and a steam generator designed by the Stalino Plant imeni 15-letiye LKSMU. Planks, 10 - 12 mm thick, were joined by V-welds at an angle of 60 - 70°, using 1 - 1.6 mm diameter wire, with transverse oscillations of the electrode (f = 60 periods/sec; A = 3 - 15 mm), in 2 - 4 layers, on d-c of reverse polarity. Welding conditions were: arc voltage 25 ÷ 30 v; 150 ÷ 200 amp welding current. Water vapor when entering the arc, dissociates into

Card 1/2

hydrogen and oxygen. The composition of the gaseous phase in a given temperature range was calculated using the temperature dependence of the equilibrium constant of the dissociation reaction, whereby it was assumed that the sum of partial pressures was equal to one. It appears that the gaseous phase in relation to the liquid metal will always be an oxidizing one, and that during welding considerable oxidation and burning out of a number of steel components will take place. It is also stated that the water vapor medium is more oxidizing than carbon dioxide at 1,800- 2,000°C. These theoretical assumptions are confirmed by experimental data, which show that carbon, manganese and particularly silicon burn out intensively. An improved content of alloying elements in the weld metal can be obtained using silico-manganese wire, in particular Св-08Г2СА(Sv-08G2SA) wire yielding higher mechanical properties than Sv-08A wire recommended by L.S. Sapiro in his previous investigations. The welding technology in water vapor calls for further studies in order to ensure stabler mechanical properties and elimination of macrodefects in the weld joints, such as slag impurities etc. There are 3 tables.

ASSOCIATION: VNIIST

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000412410013-5"

S/137/62/000/001/109/237
A052/A101

AUTHOR: Pal'kevich, A. S.

TITLE: Organization and technology of welding on the Czechoslovakian section of the oil pipeline "Druzhba"

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 1, 1962, 48-49, abstract 1E305 ("Str-vo truboprovodov" no. 8, 1961, 6-8)

TEXT: The experience of constructing the trunk oil pipeline "Druzhba" on Czechoslovakian territory is described. At present mainly the manual arc welding is applied at the construction site. 48 - 83 type electrodes with basic coating are used. They secure the following mechanical properties of built-up metal: $\sigma_t \geq 48$ kg/mm^2, $\delta \geq 22\%$, $\alpha_n \geq 13$ kgm/cm^2. One-station mobile ДС 320 (DS-320) units provide current. The Czechoslovakian section is built of seamless pipes (520 mm in diameter, wall thickness 8 mm) made of weldable steel (0.24% C, 1.2 - 1.6% Mn, 0.15 - 0.2% Si). To prepare pipes for welding, the pipes coming from the plant are sorted out at the railway station, the ends being checked with a light gauge. After that the bulk of pipes is forwarded to the site of construction and only a small part is subjected to adjustment and cutting. In

Card 1/2

Organization and technology of welding ...

the first stage of construction the assembly and welding were performed by tack welding the pipes into a continuous line. At present the flow-divided method of welding is applied, which makes it possible with a number of workers smaller than before to assemble and weld 400 - 500 m of pipeline per shift. Tests were made on the line which proved the possibility of applying to welding of the 1st and 2nd layers the electrodes of 3.15 and 4 mm in diameter respectively at the current of 140 - 170 a. The new technology provides for the welding with thin electrodes (1st layer 2.5 mm, 2nd layer 3.15 mm in diameter) only for the upper part of the butt where the sag of the fused metal is possible. The remaining part of the butt must be welded with electrodes of large cross-section under forced operational conditions. This technology enabled one to cut the time of welding butts by 30 - 40%. Methods of controlling the quality of welding and the organization of work at the construction site of the pipeline are described.

V. Tarisova

[Abstracter's note: Complete translation]

Card 2/2

FALKEVICH, A.S.

43911
Z/056/62/019/002/012/014
I037/I242

1.2300

AUTHORS: Falkievič, A.S. and Chusanov, Ch.

TITLE: New methods in welding and controlling of welded joints in construction of long distance gas and water systems

PERIODICAL: Přehled technické a hospodářské Literatury, Hutnictví a strojírenství, v.19, no.2, 1962, 108, abstract HS 62-1370 (Zváranie, v.10, no.7, 1961, 194-198)

TEXT: Welding of pipes under flux, on special welding supports on which 8-12 pipes can be welded into 35-40 m sections. Rotating levellers allow welding at a rate of 35-40 m/hour, by means of a ø= 2 cm welding wire and a current up to 600 A. Hydraulic centering arrangement. Automatic ASP-60 instrument for welding, rotation of

Card 1/2

FAL'KEVICH, A.S., kand.tekhn.nauk

Welding pipelines in a protective atmosphere of carbon dioxide. Mont. i spets. rab. v stroi. 23 no. 2:3-7 F '61. (MIRA 14:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov.

(Pipelines--Welding)

FAL'KEVICH, A.S., kand.tekhn.nauk

Mechanization and automation of welding operations in the manufacture and assembly of pipes. Mont. i spets. rab. v stroi. 23 no.9:5-10 S '61. (MIRA 14:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut stroitel'stva truboprovodov.

(Pipe--Welding)

GITLEVICH, A.D.; ZHIVOTINSKIY, L.A.; ZHMAKIN, D.F.; FAL'KEVICH, A.S., kand.tekhn. nauk, retsenzent; CHIKUNOV, A.I., inzh., retsenzent; TYURIN, V.F., inzh., red.; PETUKHOVA, G.N., red.izd-va; MODEL', B.I., tekhn.red.

[Work standards based on technical data for welding engineering processes]Tekhnicheskoe normirovanie tekhnologicheskikh protsessov v svarochnykh tsekhakh. [By]A.D.Gitlevich i dr. Moskva, Mashgiz, 1962. 170 p. (MIRA 16:3)
(Welding--Production standards)

ORLOV, V.M., kand. tekhn. nauk, red.; FAL'KEVICH, A.S., kand. tekhn. nauk, nauchn. red.; RYZHKOVA, L.N., ved. red.; GETIYA, I.A., ved. red.

[Advanced welding methods in installation work] Progressivnye metody svarki na montazhnykh rabotakh; tematicheskii sbornik. Moskva, TSentral'noe biuro tekhnicheskoi inform. 1962. 287 p. (MIRA 16:7)

1. Russia (1917- R.S.F.S.R.) Ministerstvo stroitel'stva. Tekhnicheskoye upravleniye. 2. Tekhnicheskoye upravleniye Ministerstva stroitel'stva RSFSR (for Orlov). Vsesoyuznyy nauchno-issledovatel'skiy svetotekhnicheskiy institut (for Fal'kevich). (Welding)

FAL'KEVICH, Aleksandr Semenovich; RASTOVA, G.V., ved. red.; POLOSINA, A.S., tekhn. red.

[Welding pipelines and plant (industrial) piping]Svarka magistral'nykh i zavodskikh (tekhnologicheskikh) truboprovodov. 2. izd. Moskva, Gostoptekhizdat, 1962. 422 p. (MIRA 15:10)
(Pipe—Welding)

AKULOV, I.A., kand. tekhn.nauk,dots.; ALEKSEYEV, Ye.K., inzh.; GURARI, M.D., inzh.[deceased]; DMITRIYEV, I.S., kand.tekhn.nauk,dots.; YEVSEYEV, R.Ye., inzh.; ZIL'BERBERG, A.L., inzh.; LIVSHITS, L.S., kand.tekhn.nauk; MEL'NIK, V.I., inzh.; RAZUMOVA, E.D., inzh.; TARAN, V.D., prof., doktor tekhn.nauk; FAL'KEVICH, A.S., kand.tekhn. nauk; TSEGEL'SKIY, V.L., inzh.; CHERNYAK, V.S., inzh.; SHILOVTSEV, D.P., inzh.; ZVEGINTSEVA, K.V., inzh., nauchnyy red.; TYURIN, V.F., inzh.,nauchnyy red.; VOLNYANSKIY,A.K.,glav.red.; SOKOLOV,D.V.,zam. glav.red.; SEREBRENNIKOV,S.S., red.; MIKHAYLOV,K.A.,red.; STAROVEROV, I.G., red.; VOLODIN, V.Ye., red.; NIKOLAYEVSKIY, Ye.Ya.,red.; LYTKINA,L.S.,red.izd-va; PEREVALYUK,M.V.,red. izd-va; RUDAKOVA, N.I., tekhn. red.

[Welding operations in building]Svarochnye raboty v stroitel'stve. Moskva,Gosstroiizdat,1962. 783 p. (MIRA 15:6)
(Welding—Handbooks, manuals, etc.) (Building)

ACCESSION NR: AR4015543 S/0137/63/000/011/E016/E016

SOURCE: RZh. Metallurgiya, Abs. 11E113

AUTHOR: Fal'kevich, A. S.; Marchenko, Yu.I.

TITLE: Automatic welding of straight sections of industrial and main pipelines

CITED SOURCE: Sb. Progressivn. metody* svarki na montazhn. rabotakh. M., 1962, 150-156

TOPIC TAGS: welding, automatic welding, pipe welding

TRANSLATION: The most promising method for automatizing the process of welding (W) straight pipe sections is the method of gas-electric welding in a protective gas atmosphere. The assembly of small-diameter pipes of Cr-Ni-stainless steel is widely performed with the aid of ATV automatic welders developed by NIAT (Nauchno-Issledovatel'skiy Institut Aviatsionnoy Tekhnologii -- Scientific Research Institute of Aviation Technology), as well as the AGN and MS-19 heads designed by NIIKhIMMASh (Nauchno-Issledovatel'skiy Institut Khimicheskogo Mashinostroyeniya -- Scientific Research Institute of Chemical Machine Building

Card 1/2

ACCESSION NR: AR4015543

TsNIITMASh (Tsentral'nyy Nauchno-Issledovatel'skiy Institut Tekhnologii i Mashinostroyeniya -- Central Scientific Research Institute of Technology and Machine Building). For the automatic welding of straight pipe sections of unalloyed steel in CO_2, the VNIIST (Vsesoyuznyy Nauchno-Issledovatel'skiy Institut po Stroitelstvu Magistral'nykh Truboprovodov -- Central Scientific Research Institute on the Construction of Main Pipelines) has developed the AS-60 automatic welder. Much attention is being devoted to the problems of automatic W of straight large-diameter pipe sections in the US. V. Fomenko.

DATE ACQ: 09Dec63 SUB CODE: ML ENCL: 00

Card 2/2

S/135/62/000/007/002/010
A006/A101

AUTHORS: Fal'kevich, A. S., Candidate of Technical Sciences, Khusanov, M. Kh., Engineer

TITLE: Development of the magnetographical method of controlling the quality of welds

PERIODICAL: Svarochnoye proizvodstvo, no. 7, 1962, 25 - 28

TEXT: Information is given on peculiarities and the latest achievements of the magnetographic method to control the quality of welds. To improve the process of magnetization, disk-shaped magnets are now being used. The magnets produce an inductance in 6 - 12 mm thick parts, approaching saturation, so that the recording of defects on a magnetic tape is possible. Disk-shaped magnet ДМ-61 (DM-61) has a focused flow and reduces the spreading of magnetic force lines, thus improving the recording of defects on the tape. Flaw detector МД-9 (MD-9) reproduces stable pulses on the screen of an electron-beam tube. This makes it possible to reveal the location of defects over the width, length and depth of the weld. The sensitivity of the device is increased by a higher speed (up to 5,000 m/sec) and synchronized speeds of the reproduction scanning. In

Card 1/2

S/135/62/000/007/002/010
A006/A101

Development of the...

1960 - 61 the VNIIST welding laboratory has developed a new magnetographic control method with a visible reproduction of magnetic fields instead of pulses from the defects. The field shape corresponds to the defect outline and the degree of darkness of the reproduction is characteristic of the defect depth. This method has as yet not been sufficiently studied. A portable magnetographic laboratory has been devised for the control of pipelines and assembly work on the site. The laboratory is mounted on a medium-capacity automobile, and the flaw detector on a shock-absorbing support. The equipment includes a control desk, a ferroresonance stabilizer and a control device for power supplying the disk-shaped magnet. The portable laboratory increases the efficiency of magnetographic control by about twice and its economical effect is fairly high. The control cycle for 720 - 820 mm diameter pipe butts takes 6 - 7 minutes. The laboratory was developed by the Ukrgasneftestroy Trust and its series production has been started. There are 6 figures.

ASSOCIATION: VNIIST

Card 2/2

44661
S/196/63/000/001/025/035
E194/E155

1.2300

AUTHORS: Fal'kevich, A., and Khusanov, M.

TITLE: An improved magnetographic method of inspecting weld quality

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.1, 1963, 13, abstract 1 S 50. (In collection: Za dal'neyshiy progress truboprovodn. str-va (For a further progress in pipeline construction), Moscow, Gostoptekhizdat, 1962, 87-96)

TEXT: The magnetographic method is widely used on welds on long-distance pipelines and other engineering structures. The principle is described and its advantages explained; the productivity is 8 - 10 times higher than with X-ray or gamma radiation inspection; there is no danger to the operator; it is cheap. Improvements in the processes of magnetisation and reproduction and also in the instruments and equipment are suggested. Mobile magnetographic laboratories are described in detail. Their use increases the productivity of magnetographic inspection by about twofold and yields considerable economy.

Card 1/2

An improved magnetographic method ... S/196/63/000/001/025/035
E194/E155

The entire inspection cycle for a butt-joint in a 720-820 mm diameter pipe, from preparing the apparatus to drawing the final conclusions, takes only 6 or 7 minutes.

[Abstractor's note: Complete translation.]

Card 2/2

43273
S/842/62/000/000/004/006
E191/E435

1.2300

AUTHOR: Fal'kevich, A.S., Candidate of Technical Sciences

TITLE: Present status and development prospects of inspection methods for welded butt joints in high grade pipelines

SOURCE: Primeneniye svarki v stroitel'nykh konstruktsiyakh. Vses. konfer. po prim. svarki v stroi. konstr., 1961. Moscow, Gosstroyizdat, 1962. 321-334

TEXT: Non-destructive testing methods using X- and gamma rays, magnetic phenomena and ultra-sound are compared. X-ray apparatus for up to 200 kV of the portable type made by "Mosrentgen" is briefly described. Defects down to 1 - 3% of the wall thickness can be revealed. Gamma ray apparatus up to 1956 used Co^{60}. More recently, Ir^{192}, Cs^{134}, Eu^{152}, Eu^{154} and Tu^{170} are preferred for better sensitivity. Self-propelled isotope containers with remote control have been developed. The design of a controllable source carrier is illustrated. Safe dose limits reduce the productivity of these methods. Magnetic crack detection consists in magnetizing to saturation of the welded seam and recording the magnetic leakage on a magnetic tape

C. Card 1/2

43201
S/125/62/000/012/004/004
A006/A101

1.2300

AUTHOR: Fal'kevich, A. S.

TITLE: The magnetographic quality control of welded joints

PERIODICAL: Avtomaticheskaya svarka, no. 12, 1962, 77 - 84

TEXT: In magnetographic quality control, dispersion fields of defects, arising during magnetization of the controlled parts, are recorded on a magnetic tape placed upon the weld; in the "reading" of the recordings, the magnitude and nature of these fields are reproduced. The magnetographic method has some advantages over conventional quality control, such as higher sensitivity and accurate recording of the dispersion fields. Recently, experimental investigations were carried out to develop new magnetographical devices, a magnetic tape and a new control method. These improvements make it possible to eliminate some deficiencies of the method which are due to the difficult control of welds with a coarse laminar surface. At present the following devices are in use: the ПНУ (PNU) apparatus, intended for the control of pipe butts, 168 - 1,020 mm in diameter, and of sheet structures with up to 16 mm thick walls. The main advantages

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The magnetographic quality control of welded joints

of this device are least dispersion of the magnetic flux and higher efficiency. The НК (NK) grip-type apparatus is used to magnetize pipe butts 50 - 100 mm in diameter. The "splenoid" tape device for perpendicular magnetization is recommended to control welds produced by automatic submerged-arc welding. The special new "NK" tape improves the detectability of defects and is less sensitive to uneven welds; its operational wear is low. The magnetic and physico-mechanical properties of the new tape and the Agfa "C" tape are given in Table 2. The reading of recordings is made with the use of a reproducing head. Best results are obtained with a scheme where the head is rotated across the tape (Figure 7,v), so that defects located along the longitudinal axis can be revealed. This scheme was used in the design of pulse flaw-detector МД-9 (MD-9). In 1960, VNIIST developed a new method in which the magnetic fields from the defects are visibly reproduced on a screen with the aid of a special electron-beam tube. The shape of the field corresponds to the defect outline and its degree of blackness corresponds to the defect depth. The resolving power of the magnetographic method was investigated in the control of 3 - 16 mm thick planks with 1 - 2 mm wide grooves. The results are given in Table 3. There are 3 tables and 9 figures.
ASSOCIATION: VNIIST
SUBMITTED: May 16, 1962

Card 2/4

FAL'KEVICH, A.S., kand.tekhn.nauk; YAKOVLEV, O.N., inzh.; TIMOFEYEV, Ye.N.

New magnetic belt for magnetographic checking. Stroi.truboprov. 7 no.9:10-12 S '62. (MIRA 15:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po stroitel'stvu magistral'nykh truboprovodov, Moskva (for Fal'kevich). 2. Filial Vsesoyuznogo nauchno-issledovatel'skogo kinofotoinstituta, Shostka (for Yakovlev, Timofeyev).
(Magnetic testing) (Pipe joints--Testing)

FAL'KEVICH, A.S., kand.tekhn.nauk

Inspection of welded pipe joints. Mont. i spets. rab. v. stroi. 24 no. 3:3-7 Mr '62 (MIRA 15:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po stroitel'stvu magistral'nykh truboprovodov.
(Pipe--Testing)

FAL'KEVICH, A.S., kand.tekhn.nauk; KHRENOV, K.K., inzh.

Development and study of lightweight welding conductors. Mont. i spets. rab. v stroi. 24 no.8:11-13 Ag '62. (MIRA 15:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov.
(Electric welding)

FAL'KEVICH, A.S., kand. tekhn. nauk; MARCHENKO, Yu.I., inzh.

Current supply for gas-arc welding of main pipelines. Svar. proizv. no.7:32-34 Jl '63. (MIRA 17:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po stroitel'stvu magistral'nykh truboprovodov.

FAL'KEVICH, A.S., kand.tekhn.nauk; KHUSANOV, M.Kh., inzh.

Magnetizing devices with a transverse field for magnetographic checking. Stroi. truboprov. 8 no.1:10-11 Ja '63. (MIRA 16:5)
(Electromagnetis) (Pipe joints--Testing)

FAL'KEVICH, A.S.

Prospects for the use of press welding in pipeline construction.
Stroi. truboprov. 8 no.12:10-12 D '63. (MIRA 17:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po stroitel'stvu magistral'nykh truboprovodov.

FAL'KEVICH, A.S.; MARCHENKO, Yu.I.

Gas-electric welding with simultaneous feeding of two arcs from a PSG-500 transformer. Avtom. svar. 16 no.2:74-76 F '63. (MIRA 16:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po stroitel'stvu magistral'nykh truboprovodov.
(Electric welding—Equipment and supplies)

ACCESSION NR: AP4020104 S/0125/64/000/003/0055/0057

AUTHOR: Fal'kevich, A. S. (Candidate of technical sciences)

TITLE: Magnetic properties of various zones of a weld

SOURCE: Avtomaticheskaya svarka, no. 3, 1964, 55-57

TOPIC TAGS: weld, welded joint, welding, weld magnetic properties, weld magnetic saturation density

ABSTRACT: Experiments staged to determine the magnetic properties of the weld metal, molten zone, weld-affected zone, and base metal are described. Butt welds of 720x8 mm 19G manganese-steel pipes were tested. The magnetic saturation flux density of weld templets was measured. The tests showed that the saturation density varies within 5% (i.e., within the experiment error) over the above zones; hence, magnetic methods of flaw detection are considered applicable. However, the welds of alloy steels, medium-carbon and high-carbon

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ACCESSION NR: AP4020104

steels, which have considerable variation in structural components, should be studied separately. Orig. art. has: 3 figures.

ASSOCIATION: VNIIST (All-Union Scientific-Research Institute for Construction of Main Pipelines)

SUBMITTED: 26Apr63 DATE ACQ: 31Mar64 ENCL: 00

SUB CODE: MM NO REF SOV: 003 OTHER: 000

Card 2/2

FAL'KEVICH, A.S.

Magnetic properties of various zones of a welded joint. Avtom. svar. 17 no.3:55-57 Mr '64. (MIRA 17:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po stroitel'stvu magistral'nykh truboprovodov.

FAL'KEVICH, A.S.; MANGASAROV, R.A.

Efficient conditions for the use of carbon dioxide cylinders. Avtom. svar. 17 no.7:77-78 Jl '64. (MIRA 17:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po stroitel'stvu magistral'nykh truboprovodov.

FAL'KEVICH, A.S.; LIFSHITS, V.S.; RAKHMANOV, A.S.; PAPKOV, O.S.

Advantages of using electric contact welding in the construction of oil-field pipelines. Stroi. truboprov. 10 no.1:5-9 Ja '65. (MIRA 18:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po stroitel'stvu magistral'nykh truboprovodov.

L 61513-65 EWT(d)/EWP(c)/T/EWP(v)/EWP(k)/EWP(1) Pf-4

ACCESSION NR: AP5012114 UR/0381/65/000/001/0019/0027
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B

AUTHOR: Fal'kevich, A. S.

TITLE: Magnetographic method for controlling the welded joints of trunk and secondary pipelines of ferromagnetic steel

SOURCE: Defektoskopiya, no. 1, 1965, 19-27

TOPIC TAGS: ferromagnetic steel pipeline, magnetographic examination, weld quality control, fault detection equipment, defectoscopy, magnetic fault detection, pipeline welding

ABSTRACT: The author notes that quality control of the welded joints is of supreme importance in the installation of secondary and trunk pipelines, various kinds of reservoirs and other welded structures, and that under modern conditions the most effective nondestructive control methods are those which exploit the latest achievements in the area of the physical sciences. The present article outlines basic information regarding the actual status and future prospects for the development and improvement of weld quality control (with particular application to the type of structures discussed above) by means of the so-called magnetographic method. The essential features and capabilities of this method of

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ACCESSION NR: AP5012114

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fault detection or "defectoscopy" are analyzed. Pertinent data are presented with respect to the magnetization level and different types of devices, the function of which is to induce the magnetic field required for the material testing. The article also presents basic information on the twin-layer magnetic tapes presently in use and on the design principles underlying the development of the newer elastic-type magnetic signal carrier (tapes, films, etc.). In a readily understandable form, the author presents the most essential data on the circuitry and structural design of modern fault-testing (defectoscope) equipment. Orig. art. has: 2 tables and 5 figures.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut po stroitel'stvu magistral'nykh truboprovodov, Moscow (All-Union Scientific Research Institute for the Construction of Long-Haul Pipelines)

SUBMITTED: 16Sep64 ENCL: 00 SUB CODE: IE

NO REF SOV: 007 OTHER: 000

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Card 2/2

FAL'KEVICH, A.S., kand. tekhn. nauk

Prospects for the expansion of techniques of welding main pipelines. Svar. proizv. no.4:12-15 Ap '65. (MIRA 18:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po stroitel'stvu magistral'nykh truboprovodov.

ACC NR: AM6018033 Monograph UR/ 18

Fal'kevich, Aleksandr Semenovich; Khusanov, Mukhamed Khamidulovich B+

Magnetographic control of welded joints (Magnitograficheskiy kontrol' svarnykh soyedineniy) Moscow, Izd-vo "Mashinostroyeniye," 1966. 174 p. illus., biblio. 4000 copies printed.

TOPIC TAGS: magnetic flaw detection, magnetoscopy, weld, weld defect detection, defectoscope, magnetographic flaw detection, weld control, weld inspection

PURPOSE AND COVERAGE: This book is intended for engineering personnel concerned with quality control of welded joints. The book deals with magnetographic control and fields of its application. The study and development of basic parameters of magnetographic flaw detection are discussed. Methods of magnetization, recording on magnetic tapes the fields of scattering produced by defects, interpretation of defects, etc, are explained. Various types of magnetizing devices and of flaw detectors are described. Methods and procedure of controlling welded joints of tubes, sheet structures, and products of machine building plants are also reviewed.

Card 1/2 UDC 665.39:004.5:672.3

L 02006-67

ACC NR: AM6018033

TABLE OF CONTENTS:

SUB CODE: 13, 09/ SUBM DATE: 13Jan66/ ORIG REF: 038/ OTH REF: 003/

Card 2/2

FAL'KEVICH, B. S. Dr. Tech. Sci.

Dissertation: "Dynamics and Economics of Unsettled Motion and Optimum Conditions for Automobile Work." Moscow Automotive Mechanics, 30 Dec 47.

SO: Vechernyaya Moskva, Dec, 1947 (Project #17836)

FAL'KEVICH, B.S., [illegible]

Doctor of Technical Sciences was an appraiser on the manuscript THEORY OF THE AUTOMOBILE by G. V. Zimelev (Teoriya Avtomobilya)

A.I.D. Library of Congress Call No.: TL145.Z5

FALK MICH, B.S.

worked on questions relating to irregular motion, and on methods of testing of automobiles for the manuscript THEORY OF THE AUTOMOBILE by G. V. Zimelev (Teoriya avtomobilya)

A.I.D. Library of Congress Call No.: TL145.Z5

YEFREMOV, I.S.; MARKOVNIKOV, V.L.; FAL'KEVICH, B.S., professor, doktor tekhnicheskikh nauk, retsenzent; [redacted], L.M., kandidat tekhnicheskikh nauk, dotsent; KLENNIKOV, V.M., inzhener, redaktor.

[Trolley buses; design and calculation] Trolleibusy; konstruktsiia i raschet. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit.i sudostroit. lit-ry, 1954. 379 p. (MLRA 7:6)
(Trolley buses)

FAL'KEVICH, B.S.

FALKIEWICH, B. ; DIVAKOW, N.

"Control of the Technical Capacity of a Tested Automobile. Tr. from the Russian", P. 235. (TECHNICKA PRACA, Vol. 6, No. 4, April 1954, Bratislava, Czechoslovakia)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 1, Jan. 1955, Uncl.

FAL'KEVICH, B. S.

USSR/Scientists- Mechanical engineering

Card 1/1 : Pub. 128 - 34/38

Authors : Stechkin, B. S.; Varshavskiy, I. L.; Velikanov, D. P.; Gol'd, B. V.; Kuzel', R. V.; Petrov, V. A.; Fal'kevich, B. S.; and Khrvshchov, M. M.

Title : Academician Evgeniy Alekseevich Chudakov, an outstanding scientist in the field of Soviet mechanical engineering

Periodical : Vest. mash. 9, 100-102, Sep 1954

Abstract : A short biography is presented of the life-time activities and achievements of Evgeniy Alekseevich Chudakov in mechanical engineering. The article was presented on the occasion of the first anniversary of his death.

Institution : .....

Submitted : .....

BUKHARIN, N.A.; GOLYAK, V.K.; [illegible], professor, retsenzent; TURICHIN, A.M., kandidat tekhnicheskikh nauk, redaktor; VASIL'YEVA, V.P., redaktor; SOKOLOVA, L.V., tekhnicheskiy redaktor.

[Testing automobiles with the use of electric measurement methods] Ispytanie avtomobilia s ispol'zovaniem elektricheskikh metodov izmereniia. Moskva, Gos.nauchno-tekh. izd-vo mashinostroit. lit-ry, 1955. 129 p. (MLRA 9:6)
(Automobiles--Testing) (Electric measurements)

SEAL, LC, Vol. 4, No. 9, Sept. 1955 (Unal)

FAL'KEVICH,B.S., doktor tekhnicheskikh nauk; DIVAKOV,N.V., kandidat tekhnicheskikh nauk; SHLIPPE,I.S., kandidat tekhnicheskikh nauk, redaktor; VELIKANOV,D.P., kandidat tekhnicheskikh nauk, retsenzent; POLYAKOV,V.N., inzhener, retsenzent; YEGORKINA,L.I., redaktor; MODEL',B.I., tekhnicheskiy redaktor

[Methods of testing automobiles and their mechanisms] Metody ispytaniia avtomobilia i ego mekhanizmov. No.7.[Power and efficiency of automobiles] Dinamichnost' i ekonomichnost' avtomobilia. Moskva Gos. nauchno-tekhn. izd-vo mashinostroitel'noi lit-ry. 1955. 158 p. (MLRA 9:2)

1. Russia (1923- U.S.S.R.) Ministerstvo avtomobil'nogo, traktornogo i sel'skokhoziaistvennogo mashinostroyeniya.
(Automobiles--Testing)

Fal'kevich, B.S.

GOL'D, Boris Vasil'yevich, dots.; FAL'KEVICH, Boris Semanovich, prof.; LIPGART, A.A., prof., retsenzent; TSIMBALIN, V.B., dots., retsenzent; ROTENBERG, R.V., doktor tekhn.nauk, red.; MAKHMSON, V.A., red.izd-va; TIKHANOV, A.Ya., tekhn.red.

[Theory, construction, and design of automobiles] Teoriia, konstruirovanie i raschet avtomobilia. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1957. 535 p. (MIRA 11:3)

1. Kafedra kolesnykh mashin Moskovskogo vysshego tekhnicheskogo uchilishcha imeni Baumana (for Lipgart). 2. Kafedra avtomobiley Gor'kovskogo politekhnicheskogo instituta (for TSimbalin)
(Automobiles--Design and construction)

SOV/113-59-2-3/20

AUTHOR: Fal'kevich, B.S., Doctor of Technical Sciences, Levin, I A., Candidate of Technical Sciences, and Kuznetsov, A.P., Candidate of Technical Sciences

TITLE: Some Problems in Gas-Turbine Automobile Construction (Nekotoryye voprosy gazoturbinnogo avtomobilestroyeniya)

PERIODICAL: Avtomobile'naya promyshlennost', 1959, Nr 2, pp 3-6 (USSR)

ABSTRACT: The "Automobile" Department at the Moscow Institute of Automobile Engineering has started developing the theory of the gas-turbine automobile in order to establish how best to design and operate it. The article deals with the general theory of gas-turbine power plants for automobiles and describes the characteristic features of the current (USA, England, France, Spain, and Italy) turbine-driven vehicles. There are 6 graphs, 4 tables, 2 diagrams, and 1 Soviet reference.

ASSOCIATION: Moskovskiy avtomekhanicheskiy institut (Moscow Institute of Automobile Engineering)

Card 1/1

FAL'KEVICH, B.S., prof., doktor tekhn.nauk; LEVIN, I.A., kand. tekhn.nauk

Utilizing power circulation in traction tests of motor-trucks. Izv.vys.ucheb.zav.; mashinostr. no.3:100-106 '59. (MIRA 13:3)

1. Moskovskiy avtomekhanicheskiy institut.
(Motortrucks--Testing)

FAL'KEVICH, B.S., doktor tekhn.nauk; KUZNETSOV, A.P., kand.tekhn.nauk

Traction properties of a gas-turbine motor vehicle. Avt.prom. no.3:10-14 Mr '60. (MIRA 13:6)

1. Moskovskiy avtomekhanicheskiy institut.
(Motor vehicles--Dynamics)

FAL'KEVICH, B.S., doktor tekhn. nauk, prof.; CHAMOV, A.N., inzh., red.; UVAROVA, A.F., tekhn. red.

[Theory of motor vehicles] Teoriia avtomobilia. Izd.2., perer. i dop. Moskva, Mashgiz, 1963. 239 p. (MIRA 17:1)

LITVINOV, A.S.; ROTENBERG, R.V.; FRUMKIN, A.K.; FAL'KEVICH, B.S., doktor tekhn. nauk, retsenzent; PETROV, V.A., kand. tekhn. nauk, retsenzent; VOLKOV, P.M., doktor tekhn nauk; YEGORKINA, L.I., red.izd-va; MODEL', B.I., tekhn. red.

[Motor-vehicle chassis; construction and elements of design] Shassi avtomobilia; konstruktsiia i elementy rascheta. Moskva, Mashgiz, 1963. 502 p. (MIRA 16:12)
(Motor vehicles—Design and construction)